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Microsoft set to launch one-stop security service

Microsoft plans to launch an all-in-one subscription service for PC security and maintenance. OneCare will include anti-virus and spyware protection and will be like a more wide-ranging version of Windows Update.

"Customers don't differentiate between security issues, maintenance issues and support issues; they just want someone to take care of it," a company spokesman said. As well as installing features such as a firewall and the latest patches, which appear as standard in Windows updates, OneCare will also look for spyware, Trojans and viruses, and even back up crucial data remotely.

"We realised that many people are unprotected," said Ryan Hamlin, general manager of the Microsoft Technology Care and Safety Group. Microsoft estimates that up to 70 per cent of Windows users are unprotected or use out-of-date anti-virus protection. However, OneCare will not work with any versions of Windows prior to XP with Service Pack 2 installed.



The OneCare service (www.microsoft.com/windows/onecare), which is being beta tested internally at Microsoft, is also a direct attack on third-party security suppliers such as McAfee, Symantec and Sophos (see *News Analysis, Shopper* May 2005). US software analyst Richard Williams, from Garban Intercapital, described its impact as potentially "devastating" to third-party security companies, whose market "will shrink significantly".

While anything that Microsoft does to alleviate Windows' dire security record is to be welcomed, the company is in a delicate position. The fact that it plans to charge for OneCare will upset many who feel the company should not profit from the inadequacies of Windows. On the other hand, if the company adds lots of security features free of charge it could trigger the interest of regulators in the US and the EU.

Not every security company is worried about Microsoft's plan. Symantec believes customers will pick and choose the most appropriate services. "Once a product or service offering hits the market, customers will be able to decide the best product to suit their needs. We are prepared to compete on a combination of technology and the back-end infrastructure required to support it; the strength of our relationships with our channel partners; and most importantly, the strength of the relationships we have with tens of millions of consumers," said Symantec in a statement.

Console wars cost games developers millions

Games for the next-generation of consoles cost millions of dollars to make, according to developers. Some in the industry complain that this has led to a formulaic approach to games and a reluctance to take risks.

Sony, Microsoft and Nintendo have previewed powerful next-generation games consoles that promise huge advances in graphics and other gaming features. Microsoft has demonstrated its Xbox 360, which the company claims will be available by Christmas. Sony's PlayStation 3 will appear before the middle of next year, as will Nintendo's Revolution console.

All three companies promise exponential increases in processing

power, cinematic-quality graphics, the ability to play music and videos and display photos, and support instant messaging, email and web browsing.

While these new devices are potentially powerful home computers in their own right, they are still perceived as toys for the boys. The future of each console will ultimately depend on the games developed for it.

Entertainment Software Association (ESA) president Doug Lowenstein criticised games developers for failing to create content that appealed to the mass market, concentrating instead on the hardcore shoot-'em-up games that appeal to young men.

"Our own industry, mainly through our marketing practices, reinforces the stereotype that most gamers are men," he said. "We need a cultural shift so that young girls and women feel that playing games is not a testosterone-monopolised hobby reserved for their boyfriends and husbands," he added.

However, many developers are less concerned about sexism and more worried about the increasing cost of developing games. As consoles become more and more complex, consumers are also becoming more demanding. According to Lowenstein, it already costs around \$10 million to develop a high-end game. This cost

will double over the next few years. The male gaming market is a proven commercial force, while creating games for girls and women is a risk that could lead to expensive failures.

"Any developer or publisher without a lot of capital is not going to be very successful competing in the next five years of this market," said Lowenstein. Smaller games developers have either been going out of business or are being swallowed up in an industry consolidation similar to that of the PC business. Electronic Arts, one of the biggest games publishers, has complained about "spending an awful lot of money" to keep up with the demands of console technology.



NEWS

BRIEF

■ FBI CLOSES STAR WARS P2P NETWORK

The US Federal Bureau of Investigation (FBI) announced that it had shut down the P2P network Elitetorrents.org. The Bureau claimed that the website was the source of recent pirated copies of the new *Star Wars* movie, *Episode III: Revenge of the Sith*, which was leaked on to the internet before the film was even released.

According to the FBI, the hotly anticipated film, which completes the *Star Wars* cycle, turned up on the P2P network more than six hours before it appeared in cinemas. Not surprisingly, it turned out to be a hit. The authorities claim that during the following 24 hours the movie was downloaded more than 10,000 times.

The FBI and US Immigration and Customs, armed with 10 search warrants, raided the premises of Elite Torrent. The authorities also took control of the main server and posted the message: "This Site Has been Permanently Shut Down by the Federal Bureau of Investigation and US Immigration and Customs Enforcement".

■ DTI BRINGS INTERNET SCAMMERS TO ACCOUNT

The DTI has collared crooks who made £3 million from an internet scam and barred them from directing a company for 10 years.

The pair set up a website and tempted victims on to it with the promise of a free holiday. On visiting the site, victims were promised significant savings on holiday accommodation in exchange for becoming members. But the membership, which consisted of a username and password, could cost as much as £6,000.

The information offered to members was bogus. The website was not accredited by ABTA and ATOL as it claimed, nor did it have anything to do with the well-known holiday chain Intasun.

The various companies, called Travelmasters Limited, Mediterranean Marketing Limited, Callmasters UK Limited, CCH International Limited, Intersun Limited and Leisuremasters Limited, were all ordered into compulsory liquidation by the High Court at the end of 2002.

AOL launches hybrid web browser

AOL has launched a new version of its Netscape web browser. Netscape 8 focuses on security and compatibility and is intended to revive the fortunes of the once-dominant web browser. Its appeal is based on a unique feature: it combines both Firefox and Internet Explorer in a single browser.

Netscape 8 can swap between the browser engines automatically, depending on the kind of site a user visits. If a website is one of the 150,000 listed as safe by VeriSign and TRUSTe, Netscape uses Internet

Explorer to ensure maximum compatibility. Most websites are built to work with Internet Explorer, which is the dominant browser, so Firefox can suffer glitches when visiting Internet Explorer-compliant sites.

On the other hand, Netscape 8 uses Firefox to visit sites not certified as safe, because of its superior security record. If Netscape detects a site that security companies have designated dangerous, it produces a warning screen and attempts to disable any parts of the Firefox browser that could be vulnerable to attack.

An AOL spokesman described the browser as a hybrid "that combines the usability of Internet Explorer with the security of Firefox". AOL is able to offer its hybrid thanks to a 2003 out-of-court settlement with Microsoft that permits it to use Internet Explorer royalty-free for seven years. Firefox is an open-source descendent of the original Netscape browser, the source code for which AOL donated to the open-source Mozilla Foundation.

According to the latest figures, Netscape had less than one per cent of the browser market in April.



IBM gives Firefox a boost

IBM has thrown its weight behind Firefox, the upstart open-source web browser that has encroached steadily on the dominance of Microsoft's Internet Explorer. The browser's image has been strengthened now that it has been put to work in a massive business environment.

"IBM is announcing to employees that the Firefox web browser is now available for download on our corporate intranet site and is fully supported by the IBM help desk," said the company in a message to staff. "We believe our decision to support the internal use of Firefox is significant because we are the first large corporation to encourage and support the use of Firefox internally, thus opening the doors of large enterprises to an open-source browser."

Firefox has increased its market share from around six per cent of the browser market at the start of this year to over 10 per cent by May, while Internet Explorer's share dropped to 83 per cent, according to research by Janco Associates.

Firefox 1.0 recently broke the 50-million downloads mark and to celebrate, its developer, the Mozilla Foundation, minted 50 limited-edition coins. It awarded these to people who had contributed the most to the software's success.

Mozilla Europe, the European offshoot of the Mozilla Group, joined a guerilla marketing campaign by releasing an online promotional video. This enjoyed half a million hits in the week after it became available at www.funnyfox.org. The group couldn't afford TV advertisements, so it appealed to Firefox users to point people to the website.

But not all has been rosy. Firefox has suffered from an increasing number of security alerts over the past year. In May SecurityFocus reported that a 16-year-old, known only as Paul, had discovered three serious vulnerabilities in Firefox. "Much of what we learned security-wise from Internet Explorer is being applied to Firefox to find vulnerabilities," he told SecurityFocus.

Mozilla has also recommended that Firefox users disable JavaScript or configure it not to install extensions, after two new vulnerabilities were discovered in May. Danish security firm Secunia categorised the flaws as "extremely critical". It is the first time it's designated a Firefox vulnerability with its most serious rating.

In the second half of 2004 more vulnerabilities were discovered in Mozilla's Firefox than in Internet Explorer, according to Symantec's biannual Internet Security Threat Report. Symantec said there had been 21 vulnerabilities for Firefox compared to Internet Explorer's 13. But Symantec admitted that fewer of the Firefox vulnerabilities were serious security threats.

However, Microsoft's attempts to improve security may have started to pay off. "The assumption that Internet Explorer is easier to exploit is a common misconception. Internet Explorer has become quite tough, and it is very difficult to find vulnerabilities in it," said Paul.

ILLUSTRATION: STEVE LILLIE



Gates announces Microsoft Office 12 release for 2006

Bill Gates revealed during a speech to Microsoft developers in Las Vegas that Microsoft will release a new version of Office next year. According to industry sources, beta testing will start in September.

Gates did not mention a release month for the new version in his speech, but major Microsoft customers, who are familiar with the company's plans, expect Office 2006 – or Office 12, as it may be called – to ship by July 2006. This would be well before the launch of Longhorn. A Microsoft spokesman said that Office 12 will run on Windows XP and probably Windows 2000. The company's last release, Microsoft Office 2003, shipped in October 2003.

During a keynote address at the Microsoft Mobile and Embedded Developers Conference in Las Vegas, Gates also promised innovations in "things like workflow, rights management, advanced scheduling, easy sharing [and] business intelligence" in the next release of its productivity suite.

"Those are areas where Office has become richer and will [continue

to] in the next big release that's coming some time next year," he said.

In an email to Microsoft staff, Gates said that Office 12 will help users "focus, prioritise and apply their expertise, visualise and understand key data, and reduce the amount of time they spend dealing with the complexity of an information-rich environment".

While Gates was vague on the details, Microsoft has stated publicly that it plans to expand Office by adding new desktop applications and introducing new server products and services. Office provides Microsoft's second-biggest revenue stream after Windows, and the company needs to introduce new features if it is to tempt customers to upgrade.

Microsoft analysts expect Office 12 to include a new charting application, as well as a new Excel server product and an update to the Project Server. An Excel server would enable people running Excel on PC clients, or even someone using a web-based client, to access and edit centrally stored data.

Other new features will include the ability to save files in Metro format, Microsoft's new file format

designed to compete with Adobe's PDF. Microsoft is also expected to add support for VoIP telephony and secure instant messaging, a feature aimed at business customers.

These latest developments emerged just as Sun announced the launch of version 8 of StarOffice. This low-cost alternative to Office will arrive in July 2005, a full year before Microsoft's new Office software will appear. Sun promised "dramatically improved Microsoft Office compatibility", including support for Word and Excel password protection. StarOffice will also recognise tables, paragraphs, page breaks and column breaks in Word files, Excel spreadsheet formulae and PowerPoint AutoShapes.

Sun says it has also updated StarOffice's interface to add detachable and context-sensitive toolbars. The database module introduces new wizards to simplify and automate common routines.

Unlike Microsoft Office, StarOffice 8 will also be available in versions that run on Linux and Solaris, on both x86 and Sparc systems. Sun says it has sold 40 million copies of StarOffice, which costs around £35 per copy, since 1999.

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BRIEF

■ USB GOES WIRELESS

A new wireless technology, the Wireless USB 1.0 standard, will increase wireless data transfer speeds to those of USB cables.

The standard, which is based on one of two competing Ultrawideband (UWB) technologies, will enable cable-free connections between PCs and devices at 480Mbit/s. It has the backing of both Intel and Microsoft, although the IEEE has failed to establish a single UWB specification.

It could become one of three competing wireless connectivity options. A no-wires version of FireWire is in development, and the Bluetooth Special Interest Group has revealed plans to integrate UWB technology to boost Bluetooth's speed and its possible applications.

■ BLOG FROM YOUR PHONE WITH 3

The 3 group has announced what it claims is the first ever global mobile blogging service. The network's customers are granted access to a free website, to which they can upload pictures and video clips taken with their third-generation phones.

A video clip costs 50p to send and a picture costs 25p to upload to the My Gallery service. Users can also manage their blogs from a PC. The blogs can be public or invitation only, and allow visitors to post comments on each entry.

■ XP UPDATE ADDS WIFI SECURITY

Microsoft has beefed up the security of Windows XP's wireless connections as a free update to Service Pack 2. As well as making it easier to connect to wireless hotspots, Microsoft says it has added support for WiFi Protected Access 2 (WPA2), which is said to be the highest level of standard wireless security available.

The move is driven by the requirements of US government and other security-conscious organisations for improved security within WiFi networks. WiFi is becoming an attractive target for hackers, but companies want to take advantage of the technology without compromising security.

Yahoo! offers subscription music

Yahoo! has announced its entry into the online music subscription market. This move threatens to blow RealNetworks and Napster out of the water, although its impact on Apple's market-leading iTunes Music Store, which sells songs outright, is less clear.

Yahoo! Music Unlimited offers access to more than one million songs for a monthly subscription of just \$6.99 (around £4). So far the service, based on Microsoft's WMA format, is available only in the US.

RealNetworks and Napster, which offer similar online music subscription services for \$12 (around £7) per month and \$14.95 (around £8) per month respectively, saw their share prices drop by 20 per cent and 27 per cent on the day of the Yahoo! launch. Online music accounted for 29 per cent of RealNetwork's revenues and all Napster's sales last year.

Yahoo! already has nearly nine million subscribers for various online

services such as email. Unlike Napster and RealNetworks, it's a large, rich and highly profitable company. Napster is particularly vulnerable, as it made price the central theme of an advertising campaign against Apple.

Microsoft chairman Bill Gates also saw the move as the first sign that the writing is on the wall for Apple's iTunes and iPod, whose success is closely tied. "The success of the iPod cannot continue in the long term, however good Apple may be. I think you can draw parallels with the computer; here, too, Apple was once extremely strong with its Macintosh and graphic user interface, like with the iPod today, and then lost its position," he said.

Scott Kessler, a US analyst at Standard & Poor, said that Apple's focus on music downloads rather than monthly subscription charges made it much less vulnerable than Napster or RealNetworks. "The reality is that

Yahoo! is moving into a different segment of online music than Apple [occupies]."

"Steve Jobs and Apple have made it pretty clear that they think people want to own and not rent music, and Apple has stuck to its downloading model. A successful Yahoo! entry might result in Apple reconsidering their business model and adding a subscription offering," Kessler told *BusinessWeek*. "But presently, I highly doubt that someone with an iPod is going to subscribe to Yahoo! music. The MP3 player plays a strong part in determining what service people use. The reason that iTunes is the leading download service right now is because of the iPod," he said.

Kessler went on to warn Apple that in the longer term "A new customer might say, 'This iPod is too expensive, maybe it's cheaper to go with the alternative that Yahoo! is offering.'"



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BRIEF

■ APPLE CAMPS FOR KIDS

Apple's two UK shops, in London and Birmingham, are hosting Apple Camps for children over the summer holidays.

Each camp provides an opportunity for children and their families to participate in activities including hands-on learning and "doing cool stuff on Macs". Campers complete their own projects, which they can take home on CD or DVD.

There are three free camp workshops to choose from, specialising in movies, photos and music. The workshops are recommended for children aged from eight to 12. You can sign your kids up for just one camp or all three, although space is limited. For more information visit www.apple.com/uk/retail/camp.

■ ADOBE PLUG-IN FOR ON-THY-FLY WEB EDITING

Adobe has released a plug-in for GoLive CS2 that enables web authors to create areas on their websites that other people can edit and update.

Like Macromedia's Contribute, Adobe Co-Author lets designers designate editable regions of a site. Then co-authors can use the same application to make changes without needing to know any code.

The original site creator can determine whether the co-author can change the site immediately, or make updates to a test area.

■ GOOGLE ADDS PERSONAL TOUCH

Google is breaking with its philosophy of providing a clean home page and has introduced personalisation features. The new facility, available at Google Labs, allows visitors to get an instant update of personalised information such as the local weather forecast, news, share quotes and their Gmail inbox if they have one.

The feeds on offer include stock tickers from the Dow Jones and Nasdaq and news from Slashdot.org, Wired, the *New York Times* and the BBC. There are also feeds for handy words, a quote of the day, and lists of films showing near you. Driving instructions are also available through Google maps, which is an odd thing to put on a personalised home page, although it's probably there as a test.

Cheap UK telephony

UK broadband users can look forward to plummeting phone bills, following the entry of AOL and Vonage to the small but fast-growing internet telephony market. IDC predicts that around one in 10 UK broadband users will use a Voice over IP (VoIP) service by 2007.

Tesco, Carphone Warehouse and Tele2 already offer free local and national calls for customers with internet access. The entrance of AOL UK, which has over a million of the UK's 6.5 million broadband customers, and US VoIP pioneer Vonage, makes expansion of the market certain. This will come at the expense of traditional phone companies.

AOL Talk (www.aol.co.uk/talk) costs £9.99 per month for broadband

customers with a BT landline. All UK local and national calls are free, except those to premium-rate numbers and mobiles. International calls start at 2p per minute. Customers have to pay BT the basic landline rental, but no special handset is needed, and they can keep their BT phone number.

Vonage's package requires just a broadband connection. Users plug their phone into an adaptor that connects to the broadband router's Ethernet port. They get a new telephone number, but this is tied to their account, so they can keep it if they move house. Vonage (www.vonage.co.uk) has over half a million customers in the US. Calls to other Vonage users anywhere in the world are free.

PC users with broadband have access to free telephony through services such as Skype, which offers free calls to anyone in the world who has a PC or Mac running the Skype software. It even lets you call standard phones, although it charges for this.

Instant messaging services such as AIM and MSN Messenger come with built-in voice chatting. While not a proper alternative to a phone, this is still an attractive free alternative to making expensive international calls.

This may sound ominous for BT's telephone business, but BT says it is well on the way to transforming itself into a broadband company. At the end of March, BT said it had installed five million broadband connections, putting it a year ahead of its target.

DrinkorDie jailed

Four UK members of the DrinkorDie gang, which offered the public free cracked versions of popular software, were found guilty of conspiracy to defraud after a six-month trial at the Old Bailey. They received sentences of up to two and a half years. Alex Bell, Steven Dowd and Mark Vent were jailed, while Andrew Eardley received a suspended sentence.

The cracked software was offered for download through warez websites. Programs were often put on these sites before they were available commercially, Windows 95 being a notorious example. The gang did not charge users to download their cracks.

Prosecuting barrister Bruce Houlder said, "They may see themselves as latter-day Robin Hoods, stealing from the rich to give to the

poor, but in reality it is a cover for fraud." Houlder said it was the biggest software piracy case ever tried in the UK.

Sentencing the defendants, Judge Focke said, "The activities of all four of you struck at the heart of the software trade. The loss of software to owners through piracy is staggering. Also, the effect on related businesses and the lives of employees can be rendered catastrophic."

According to the Business Software Alliance's Global Piracy Study, over \$1 billion (around £551m) was lost in the UK to software piracy last year. The study estimated that 27 per cent of software on PCs in the UK is illegal, although this is below the European average of 35 per cent.



Peter Sommer, an expert witness for the defence, was skeptical of the industry's claimed losses. "No-one knows how many copies of pirated software were made by others, or how many of those represented actual lost sales at full retail price," he said.

The arrests followed an investigation by the National Hi-Tech Unit in cooperation with the FBI's Operation Buccaneer, which began in 2001 to crack down on international copyright infringement.

MSN brings new search facilities to Windows

Microsoft has launched the MSN Search Toolbar, bringing search features to the Windows desktop. This follows the introduction by both Google and Yahoo! of their own hard disk search tools. Although Longhorn's much-vaunted search functions are at least a year away, Microsoft has struck back with its own free alternative to Google's and Yahoo!'s offerings.

The MSN Search Toolbar with Windows Desktop Search, to give it its full name, has been available as

a beta version for five months. The final release can search for content in email, Office, GIF, JPEG, PDF and web page formats. It is available from <http://desktop.msn.com>.

The software adds the ability to preview the contents of files in a window without needing to open the originating application. It also adds control over which files are indexed and how often they should be indexed. This refinement is designed to improve performance and security.

Microsoft is also encouraging third parties to develop plug-ins that can add file formats not already indexed by the basic program.

Meanwhile, Google has upped the ante by releasing Google Desktop Search for Enterprises which, as its name suggests, is aimed at companies that want a better data search tool for their internal networks. The software is free but Google is offering a paid-for service to help with maintenance and installation.



Apple adds movie playback to iTunes

Apple has added the ability to play videos in its iTunes software. The feature appeared in a low-profile release of version 4.8 in May. Despite denials, Apple has long been expected to add movie downloads to its successful music download service, and iTunes 4.8 is clearly a step in that direction.

"With iTunes 4.8, you can watch QuickTime and MPEG4 movies in iTunes," Apple said on its website. "To add video files to your iTunes library, drag a video file from the Finder to the Library or a playlist in the iTunes Source list, or to the right side of the iTunes window."

Users watch movies in the iTunes artwork pane, a separate window or full screen. Video clips have a camera icon beside the track name in iTunes. Apple already offers downloads of some video promos from artists including Morcheeba and

Gorillaz, who are featured in the iTunes Music Store.

According to one video software developer, Apple could be moving towards creating a unified interface that can manage various media types from one application. This is the approach Microsoft has taken with its Windows Media Player. Apple's QuickTime technology would still underpin iTunes, but the QuickTime player would be folded into iTunes.

From there, it's just a small step to offer video content such as movies and TV programmes through the music store, by streaming video on demand as QuickTime does for movie trailers, or offering downloads of films and videos as iTunes does with music.

Apple's early adoption of the H.264 codec, which supports better video quality and smaller file sizes, means the technology is in place for Apple to offer a video download

service. Apple CEO Steve Jobs has been skeptical about whether people want to watch videos on computers or portable devices. Still, Apple launched the iPod shuffle not long after Jobs dismissed the appeal of flash-based music players.

The *New York Post* revealed that Apple has "inked a deal with Alphamosaic, a British chip maker whose latest powerful chip handles music, image and video". This, it claims, is a powerful sign that Apple intends to release a video iPod.

Apple faces growing competition in the music player market, and many analysts believe the company needs a new blockbuster consumer product such as a video player. There is one obstacle to an iTunes video download service and a video iPod: Hollywood is determined not to follow the example of the music business and allow Apple to dominate its online business.

US firm buys LastMinute.com

Lastminute.com has been bought by a US online travel company. Sabre, which operates Travelocity, bought the British online travel company for £577 million.

After the internet bubble burst in 2000 and many high-tech businesses went bust or lost share value dramatically, the British dot com survived. But while Lastminute.com may not have gone the way of such UK dot coms as boo.com and clickmango.com, it has consistently lost money since it was founded in 1998. It lost £45 million during the past six months, and last year it cut 15 per cent of its staff to reduce costs. Profit is not everything, it seems.

"Today's offer from Sabre is an endorsement of the achievements of everyone at Lastminute.com," said one of Lastminute.com's co-founders, Brent Hoberman. "Over the

past seven years, we have built a business from scratch into one of Europe's leading travel and leisure groups, with over seven million customers and total transactions worth £992 million for the financial year ending 30th September 2004."

The deal rated Lastminute's share price at 165p per share, a 57 per cent premium on the company's pre-offer share price of 105p per share and way above its low of 17p in the dark days after the internet bubble burst. This price is well below its March 2000 flotation price of 380p and all-time high of 580p; some investors have lost a lot of money on Lastminute.com. Between them, Fox and Hoberman will make nearly \$40 million (around £22.8m) from the sale.

"I would hope that Lastminute.com will remain as an iconic UK dot com," Hoberman said.

\$100 laptops for world's poor

A project to create \$100 laptops for the poor children of the world is on target to start production by the end of this year. The machines won't be running Windows.

Massachusetts Institute of Technology (MIT)'s Media Lab says it has orders for around six million laptops, which it hopes will improve education and employment prospects for the world's underprivileged.

MIT Media Lab chairman Nicholas Negroponte hoped to reach the \$100 (around £54) target price by eliminating costs typical to the PC industry. Apart from a stripped-down hardware specification and \$30 (around £16) projection display, he said MIT's not-for-profit project (<http://laptop.media.mit.edu>) would not have to worry about advertising, sales channels and marketing overheads.

"The rest of the cost is there to support an obese, overweight and unreliable operating system [Windows]," he said. "If you get rid of that and start with a thin, tiny operating system you can do an awful lot." The laptop, which uses a 500MHz AMD processor, 256MB of RAM and 1GB of flash-based storage, will run Linux. The machines will be produced in China and possibly Brazil.

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PIRATE SOFTWARE IN UK WORTH OVER \$1BN

Software piracy in the UK declined slightly in 2004. However, 27 per cent of software on computers was illegal, according to the Business Software Alliance's Global Piracy Study. The value of pirated software was placed at more than £1bn.

The UK remains below the European average of 35 per cent, with the worst offender being France, at 45 per cent. This figure is attributed to the large proportion of small businesses in the country.

"The level of software piracy remains unacceptably high," comments Siobhan Carroll, the regional manager for Northern Europe, BSA. "While ongoing campaigns by ourselves and other creative industries will help raise awareness of the piracy problem and respect for intellectual property, the support of the Government will be crucial in bringing the rate down."

MPAA TARGETS TV PROGRAMME SWAPPERS

In a major escalation of its battle against piracy, the Motion Picture Association of America (MPAA), which represents the interests of the Hollywood film studios, has turned on internet sites that specialise in swapping recordings of TV shows.

The organisation has filed lawsuits against six BitTorrent sites that it claims are responsible for the illegal swapping of millions of dollars worth of film and TV programmes. Among the sites on the receiving end of lawsuits are Btfnrt, scifi-classics.net and ShunTV.

WORM SPREADS NEO-NAZI PROPAGANDA

German neo-Nazis have begun sending spam emails to entice unsuspecting recipients to racist websites. In June, a version of the Sober worm (Sober.Q) dispatched emails to millions of computer users. The quantity has been described by experts as "staggering" with subject lines in German that translate to messages such as "Multicultural = multicriminal". The emails contain links to German-language sites. Some small networks were overrun with the amount of spam.



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COLLEGE OF FASHION HAS DESIGNS ON FABRIC TECHNOLOGY

The London College of Fashion has hosted a talk about how digital technology will sew itself into the fabric of future fashions. Rather than gadget-friendly clothing such as the Burton Amp Jacket, a snowboarding jacket with iPod controls built into the sleeve, the event discussed futuristic fashionware that integrates electronics "seamlessly", incorporating technology at a nano-level. Of all possible developments, however, digital jewellery was considered the most likely to take off in the near future. Check out Speckled Computing at www.specknet.org for more.

SONY TO EXTEND ITS CD DRM EXPERIMENT

Sony BMG, the music arm of the consumer electronics giant, is stepping up the introduction of new anti-copying software for a range of its music CDs. Ten CD titles, covering over a million produced copies, now include DRM software created by a British company.

In February, the company announced that it would be using eXtended Copy Protection (XCP) technology from UK-based First4Internet. The XCP software is not aimed at preventing serious piracy operations but is targeted at preventing large scale 'casual' copying. It allows for a limited number of copies to be made, either as backups or for personal use. However, it restricts mass burning to reduce the danger of piracy.

SAMSUNG ANNOUNCES NAND-BASED HARD DISKS

Samsung Electronics says it has created the first solid-state disk drive based on NAND Flash memory technology, popular in consumer electronics and mobile PC devices. The development paves the way for new storage options for PDAs, music players, digital cameras and mobile phones. The first disks are set to appear in sub-notebook PCs. The Korean electronics giant says the NAND-based hard disk is based around the 8GB NAND Flash devices it announced in September last year. Samsung says it can build disk drives with a capacity of up to 16GB.

ILLUSTRATION: STEVE LILLIE

Robots that reproduce

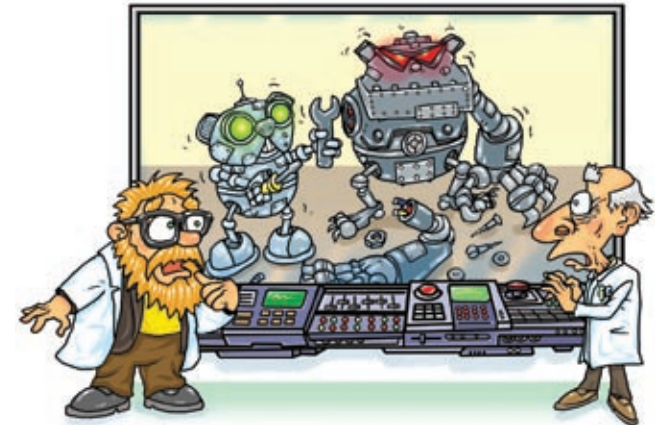
US scientists at New York's Cornell University have created a robot that can reproduce itself, mimicking at a primitive level the self-replicating ability found in all life forms.

Hod Lipson, the scientist leading the project, told the journal *Nature* that his robot "contains the electronic equivalent of DNA", which means a second-generation robot inherits the ability to create another robot in the image of itself and its original creator.

"Self-reproduction is central to biological life for long-term sustainability and evolutionary adaptation," Lipson wrote in an article for *Nature*. "Although these traits would also be desirable in many engineered systems, the principles of self-reproduction have not been exploited by machine design."

The idea of self-replicating robots that threaten their human creators is a staple of dystopian science fiction fantasies. But Lipson's robots are a primitive proof of concept rather than a worrying reality. Each robot consists of four 10cm cubes clumped in a "flexible three-dimensional" design. Each cube is sliced diagonally into halves that rotate against each other, enabling the robot to change shape.

To create an identical child robot, a parent robot bends down and places



its uppermost cube on a table forming the base of the new robot. The parent robot then picks up a new cube using electromagnets powered by contacts on the table's surface and places the new cube on top of the new robot's base. The child robot helps the parent robot to add cubes during the process, until two identical four-cube robots stand side by side. The whole process takes a couple of minutes.

"The machines we have created are simple compared with biological systems, but they demonstrate that mechanical self-reproduction is not unique to biology," wrote Lipson. "This concept could be useful for long-term,

self-sustaining robotic systems in areas like space exploration and operation in hazardous environments, where conventional approaches to maintenance are impractical."

"If you're sending a robot to one of Jupiter's moons and the robot breaks, the mission is over. So you would like to have a system that can adapt or repair itself remotely. So that is one clear application," he said.

Lipson's robots are a long way from true self-replication; they require human-made building blocks to reproduce. Unlike life forms, they do not mutate into different forms through generations.

Stroke a chicken online

Scientists from Singapore have developed the world's first "human-poultry interaction system", according to Professor Adrian David Cheok, whose team has been working on the technology for two years.

The National University of Singapore's Mixed Reality Lab is working on technology that enables someone in one location to communicate with another person or animal in another location in real time using the internet.

The team has produced a chicken-shaped device covered in sensors, which, when caressed, wirelessly communicates the movements to a PC. This then relays

the tactile movements as data packets over the internet. Another PC connected to the internet transmits this data, again wirelessly, to a specially rigged-up jacket worn by a chicken. Inside the jacket are vibrating pads, which reproduce the initial chicken stroking.

Although the project might seem ridiculous, Cheok said that the work could have useful applications. Allergic people could stroke their animals, for example. It's only a matter of time before the porn industry finds a way to exploit the technology. Cheok's team hopes to have developed a human sensory suit by August next year.

Internet goes underground

London Underground will start trials for subterranean mobile phone services next year. If everything goes according to plan, commuters will be able to use phones as well as wireless internet devices to maintain contact with the surface.

Over 70 bids have been placed by companies who will compete to sink their services into the tunnels that run under London. After an initial period of trials and tenders for business, the public should have access to wireless services by summer 2008.

The London Mayor, Ken Livingstone, announced last March that he wanted companies to provide such services underground at tube stations. It is not clear whether travellers will be able to maintain calls and internet connections in a moving tube train.